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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,357	12/27/2005	Runlin He	122705SH 01a	4129
7590 Banger Shia 204 Canyon Creek Victoria, TX 77901			EXAMINER FAROKHROOZ, FATIMA N	
			ART UNIT 2879	PAPER NUMBER
			MAIL DATE 10/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/562,357

Applicant(s)

HE, RUNLIN

Examiner

Fatima N. Farokhrooz

Art Unit

2879

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Priority*

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### *Specification*

The disclosure is objected to because of the following informalities: Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Examples of some unclear, inexact or verbose terms used in the specification are:

- a) On page 1, line 12, "but this of compact Fluorescent lamps (CFL) exists some shortcomings".
- b) On page 5, lines 1-2: "the whole length of the lamp is shortened so that structure becomes to compacter".
- c) On page 7, lines 14-15, all the leg tubes 11 of the discharge tube 1 are coated with earth point triad over the inside wall".
- d) In claim 7, " The glass tube is conveyed to lying above three wide-section flaming nozzles having different **wide**".

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***Claim Objections***

2. Claims 8,9,10,11,12 and 13 have no antecedent basis to independent claim 6, since only the heater is claimed in claim 6 where as the wide-nozzles and segments as disclosed in claims 8 -13 have not been disclosed in claim 6 on which claims 8-13 are dependant. Appropriate corrections are needed towards the claim dependencies of the claims 8-13. For purposes of art rejection it is deemed that claims 8 -13 are dependant on claim 7.

Regarding claim 3, wherein "the discharge tube is bent to an arc or an arc with ellipticity". The claim is objected to as having a broad limitation such as 'arc' followed by a narrower version of the limitation, that is, "arc with ellipticity" within the same claim. Appropriate correction is needed.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Holzer et al. (US 6307316).

4. Regarding claim 1, Holzer teaches an automatic one-shot-modeled compact fluorescent lamps (CFL) discharge tube typically constituted of several said discharge tubes, wherein said discharge tube appears to an U-shaped glass tube with two close parallel leg tubes (Fig.22), and said both parallel leg tubes are bent to a curve with a certain curvature radius simultaneously, just as appearing to ")" shape in the side view (col.4, lines 38-53).

5. Regarding claim 2, Holzer teaches a one-shot-modeled compact fluorescent lamps (CFL) discharge tube, wherein the diameter of said leg tube of the discharge tube is 6 ~12 mm (Abstract, col.1, lines 34-39).

6. Regarding claim 3, Holzer teaches an automatic one-shot-modeled compact fluorescent lamps (CFL) discharge tube, wherein said discharge tube is bent to an arc (Fig.22, col.4, lines 38-53).

7. Regarding claim 4, Holzer teaches an automatic one-shot-modeled compact fluorescent lamps (CFL) discharge tube, wherein the number of the discharge tubes is 2-5 or more (Fig. 15-22)

8. Regarding claim 5, Holzer teaches an automatic one-shot-modeled compact fluorescent lamps (CFL) discharge tube, wherein several said discharge tubes are integrated into a whole compact fluorescent lamps (CFL), which can be configured to

a circle (Fig.22), an ellipse, a rectangle (Fig.20), a triangle (Fig.10) or a polygon in top view (Fig.15-22).

9. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Itou (US 4869698).

Regarding claim 14, Itou teaches a modeling die (Fig.4; col.1, lines 30-33) used for manufacturing the automatic one-shot-modeled compact fluorescent lamps (CFL) discharge tube typically includes a cavity die and a male die, wherein the die parting face is formed along with curved axils of the discharge tube so that the U-groove is divided two half-portions respectively formed on the cavity die and the male die along with the die parting face, the cross-section of the U-groove on each die appears to half circle (col.3, lines 16-23; 40-51 and 58-68).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (US 4869698), in view of Soulard (EP 0133831).

Regarding claim 6, Itou teaches a method of manufacturing the automatic one-shot-modeled compact fluorescent lamps (CFL) discharge tube (Fig.1 to 5), wherein

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the procedures are to follow the below steps: the first step, send the original glass tube into heater, heat the desired portion bending to U-shaped in stage, just as the bending portion is in highest temperature to melting soft, the other portions like the leg tubes are next to the curved segment; the second step, bend the thermal-melting glass tube to U-shaped ;the third step, put the bent U-shaped glass tube into the modeling cavity and male dies; the fourth step, by operating with mechanical arm, close the cavity die and the male die so that the bent U-glass tube is embedded into the U-groove curved in the curvature radius (col.2, lines 12-21 ; col.2 ,lines 54 to col.3,lines 23); the fifth step, blow up the bending or distorting portion of the U-glass tube so as to fill out the U-groove of the closed die via the straight portion like the leg tube (col.3,line 58 to col.4,line 5); the sixth step, by operating with the mechanical arm (col.2, lines 19-21; col.4,lines 1-3 and 8-9), open the cavity die and the male die, a finished glass tube can be stripped. Itou implicitly teaches that the dies are opened and closed by operating with mechanical arm, since Itou describes moving the dies by **the step of clamping** (col.2, line 20 and col.4, line 2).

Itou does not teach that the original glass tube is sent to the heater on the conveyer. The added Soulard reference teaches that the glass tube is sent to the heater on the conveyer (see Fig.1,Derwent Equivalent Abstracts) for the benefit of achieving fast and mechanized manufacturing of the lamp.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the conveyer as disclosed by Soulard to send the glass

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tube to the heater in Itou's manufacturing device for the benefit of achieving fast and mechanized manufacturing of the lamp.

11. Regarding claim 7, Itou teaches a method of manufacturing a compact fluorescent lamp discharge tube. Itou does not teach that the glass tube is conveyed to lying above three wide-section flaming nozzles having different **widths** just as one or three flaming segments to be heated to melt soft.

The added secondary reference Soulard teaches a method of manufacturing of a glass tube, wherein the glass tube is conveyed to lying above wide section nozzles 'd'(Fig.1), each nozzle having four flaming segments 'e', thereby controlling the amount of heat reaching the tube (see Derwent's Basic Abstract).

Claim 7 would have been obvious because the technique for improving a particular class of device by changing the **number of nozzles** and changing the **width** of the nozzles such that there are **one or more flaming segments** in Soulard's heating arrangement, was part of the ordinary capabilities of a person of ordinary skill in the art, in view of the teaching of the technique disclosed by Soulard comprising wide section nozzles each nozzle having flaming segments, for improvement in other situations.

12. Regarding claims 8 and 9, wherein the sequence of arranging the wide nozzles as i) **single segment, single segment, three segments** (as claimed in claim 8) or ii) **single segment, three segments, single segment** (as claimed in claim 9) is claimed, it was part of the ordinary capabilities of a person of ordinary skill in the art and it would



have been obvious to achieve the sequences in view of the teachings of the technique disclosed by Soulard in order to control the amount of heat reaching the tube.

13. Regarding claims 10 and 11, wherein treating the different segments with different heating temperatures (and in stage treatment in claim 11) is claimed; it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the different segments with different heating temperatures using Soulard's heating arrangement of the nozzles 'd' and segments 'e' in order to control the amount of heat reaching the tube.

14. Regarding claims 12 and 13, wherein treating the different segments with same heating temperature flame and different heating time in stage treatment (as claimed in claim 12) or different segments treated with different heating temperature flame and different heating time in stage treatment (as claimed in claim 13) is claimed, it would have been obvious to one of ordinary skill in the art at the time the invention was made to achieve treatment of the different segments with same heating temperature flame and different heating time in stage treatment or different segments treated with different heating temperature flame and different heating time in stage treatment in Soulard's heating arrangement in order to control the amount of heat reaching the tube.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (US 4869698) as applied to claim 14 above, in view of Holzer (US 6307316).

Regarding claim 15, Itou teaches molding dies with U-groove shape (Fig.4). Itou also teaches that in the bulb manufacturing method, a sectional shape of discharge path of the bulb can be modified by changing the cavity shape of the molding dies (col.4, lines 38-42). However Itou does not teach that the radius of the U-groove is 2.5 - 6.5 mm and the preferred value is 4.0 - 6.0 mm. The added secondary reference Holzer teaches a fluorescent lamp with a discharge tube with a radius that is no more than 6.5 mm (Abstract, diameter is no more than 13 mm) for the benefit of facilitating plugging of the discharge tubes singly or in groups into different housings. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make molding dies with a U-groove having radius values as disclosed in Holzer, in the Itou device for the benefit of facilitating plugging of the discharge tubes singly or in groups into different housings.

16. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (US 4869698) as applied to claim 14 above, in view of Prophet (5413743).

Regarding claim 16, Itou teaches a molding die for manufacturing compact fluorescent lamp discharge tube, wherein the U-groove on the cavity die is a smooth U shape (Fig.3). Itou does not teach that the bottom side of the molding die is built upon with ejector pin. The added Prophet reference teaches a molding die with an ejector pin for facilitating easy removal of the lamp from the molding machine (col.5, lines 61-64, col.6, lines 31-34 and lines 47-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ejector pin in the molding

machine as disclosed by Prophet, in the Itou molding device for the benefit of facilitating easy removal of the lamp from the molding machine.

However, the secondary Prophet reference does not teach an ejector pin with a cone tip. With respect to claim 16 : the shape of the ejector pin, i.e., cone tip, absent any criticality, are only considered to be obvious modifications of the shape of ejector pin disclosed by Prophet as the courts have held that a change in shape or configuration, without any criticality, is within the level of skill in the art as the particular shape claimed by Applicant is nothing more than one of numerous shapes that a person having ordinary skill in the art will find obvious to provide using routine experimentation based on its suitability for the intended use of the invention. See In re Dailey, 149 USPQ 47 ( CCPA 1976 )

### ***Conclusion***

17. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.*

JP 60-20448 teaches a lamp with round top and straight legs.

US 2284089 and US 3378243 teach multiple burners used for controlling temperature and reshaping glass.

Chinese Patent CN 2540024Y teaches a Fluorescent lamp with elliptically shaped discharge tubes.

### ***Contact Information***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fatima N. Farokhrooz whose telephone number is (571) 272-6043. The examiner can normally be reached on Monday - Friday 9 AM to 6.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



FF

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